

GRAND SLAM

INSTALLATION PROCEDURES AND GAME OPERATION INSTRUCTIONS

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PRICE \$1.00

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All games have been carefully inspected before leaving the factory, however, minor troubles may result due to vibration during shipment. Plugs may come out of their sockets, tilt switches may be out of adjustment, etc.

The following steps should be taken to insure the proper operation of this machine:

VISUAL INSPECTIONS TO BE DONE BEFORE PLUGGING IN THE LINE CORD

1. Check for foreign material across the contacts.
2. Look for disconnected wires.
3. Check plugs to be sure they are securely seated in the sockets.
4. Dress cables to keep away from moving parts.
5. Inspect for cold solder connections.
6. Manually operate all step-up units. Action should not be sluggish.
7. Check the fuses. They should be firmly seated in the clips.
8. Adjust leg levelers so that playboard has desired pitch and is level to the horizontal axis.
9. Check the tilt switches: One in the lightbox, one on the playboard and one on the bottom panel.
10. Adjust ball roll tilt and pendulum tilt.

PLUG IN THE LINE CORD

The coin chute lights and the scene lights in the lightbox should go on. If not, operate the on-off switch located at the bottom right front corner of the cabinet.

Raise the playboard and close the front door. Drop coins thru the entrances to check alignment of coin feed troughs to rejectors. Check coin lockout wireforms; they should be out of the path of the coins when the game is on.

If the 1st & 2nd chute adjustment plug is in the "2 coins 1 play - 1 coin 1 play" position, inserting a coin in the first chute (nickel) will actuate the 2 coins per play relay ("Y") and inserting the second coin will actuate the start relay ("S") thru the "Y" relay switch. Inserting a coin in the second chute (dime) will actuate the start relay ("S").

If the 1st & 2nd chute adjustment plug is in "1 coin 1 play - 1 coin 2 plays" position, inserting a coin in the 1st chute (nickel) will actuate the start relay ("S"). Inserting a coin in the second chute (dime) will actuate the 2 play relay ("X"). "X" relay steps the replay unit once and starts the game.

Insert a coin in the third chute; this will actuate the third chute relay ("W"). "W" relay will start the game and step the replay unit as many times as necessary to accumulate credit as indicated by the 3rd chute adjustment plug. (Sets up the game plus 1, 2, 3 or 4 credits.)

OPERATING INSTRUCTIONS

1. Inserting a coin actuates "S" relay (Start relay).
2. This relay will lockin thru its own switch and a motor 2B switch.
3. The following sequence takes place thru the closed switches on "S" relay.
 - a. The motor starts running.
 - b. The total play meter and "V" relay coil are actuated by switches on motor 2C and motor 1A.
 - c. The reset "Ball Count" unit coil is energized returning the unit to zero.
 - d. The add "Hit" unit coil is pulsed by motor 1D and motor 1A until it reaches a zero position.

When "V" relay coil is actuated it is locked in by the armature of "VB" coil. A switch on "V" relay closes and actuates "Z" relay. Thru closed switches on "Z" the point score and runs score units reset to zero thru switches on motor 1A and motor 4A. When all units are reset to zero and motor 2B makes, "VB" relay is actuated. This releases the armature on "V" relay and opens the switch that actuated "Z" relay. The reset cycle is now complete.

4. Place the ball in the outhole. When the ball makes the ball return switch, "O" relay is actuated thru the normally closed switches on motor 1C, "V" and motor 2B. "O" relay locks in thru its own switch and switches on "V" and motor 2B. "O" relay runs the motor. Motor 4C actuates the ball return coil thru a switch on "O" relay. The ball return kicks the ball across the trough switch which steps the ball count unit once, indicating first ball in play. The ball is now in the runway and ready to be shot onto the playfield.

WHEN A TILT SWITCH IS MADE, INCLUDING THE SWITCH IN THE LIGHTBOX, "T" RELAY WILL ENERGIZE. A NORMALLY CLOSED SWITCH ON "T" WILL OPEN AND BREAK THE CIRCUIT TO "R" RELAY.

PLAYBOARD OPERATION

The rollovers, baseball targets and roto targets score indicated values and advance the runner around the bases. Example: Hitting the top yellow rollover scores 200 points and lights second base hole. Hitting the blue "single" roto target scores 100 points and moves second base light to third and lights first base.

The holes score 1, 000 points and lights corresponding base. They do not advance bases.

The rollover button scores 100 points or 1, 000 points when lit. It will light when the bases are loaded.

The pop bumpers score 100 points or 1, 000 points and are lit all the time. On 5 ball play they will score 1, 000 points when the bases are loaded, on 3 ball play they score 1, 000 points all the time.

The flippers are actuated by the player pressing buttons on the sides of the cabinet. The flipper coils have two windings; one of heavy wire that passes high current allowing a strong initial stroke: the second winding is of lighter wire and is in series with the first winding. The lighter winding is shorted out until a normally closed switch is opened by the flipper linkage. This allows the flipper to be held energized and not overheat because less current passes through the coil.

NOTE: THE PLAYBOARD PITCH SHOULD BE 3-1/2 DEGREES TO MAINTAIN PROPER BALL ACTION AND PLAYER APPEAL. THIS IS BUILT INTO THE GAME BY RUNNING THE LEG ADJUSTERS ALL THE WAY IN AND THEN ADJUSTING THEM TO LEVEL THE MACHINE ON ITS HORIZONTAL AXIS.

ADJUSTMENTS ON GRAND SLAM

In the lightbox:

POINT SCORE AND RUNS SCORE ADJUSTMENT

These adjustments allow replays for variations in high scores and runs scores. See related card for instructions. Refer to recommended score card before making the changes. When changing scores, change the cards on the playboard card holder to agree. Note that the 3 ball scores are higher than the 5 ball scores.

3 - 5 BALL ADJUSTMENT

This adjustment changes the number of balls played per game and changes the pop bumpers to score 1,000 points, at all times. The "Ball Count" unit steps once for each ball played until it reaches the third or fifth step, depending on how the 3-5 ball adjustment is set. The third or fifth ball leaving the playfield pulls in "O" relay, the motor runs and motor 1A pulses the add "Ball Count" unit to the 6th step. The 6th position "Ball Count" unit switch opens the circuit to the playboard contacts.

On the bottom panel:

3RD CHUTE ADJUSTMENT

Inserting a coin in the third chute sets up the game and steps the replay credits as determined by the 3rd chute adjustment (1-2-3-4).

1ST or 2ND CHUTE ADJUSTMENT

This adjustment determines how many coins are required to set up the game or add the replay credit unit. If the adjustment is in (2 coins 1 play, 1 coin 1 play) position, game is set to take 2 coins in the first chute or 1 coin in the second chute to start the game. If the adjustment is in (1 coin 1 play, 1 coin 2 plays) position, the game is set to take 1 coin in the first chute to start the game or 1 coin in the second chute to start the game and step the "Replay" unit 1 step.

On the ball roll tilt panel:

There are two sets of holes for mounting the tilt bob strike plate. By moving the strike plate closer to tilt bob support bracket the game will be less sensitive to tilting.

On the front door:

COIN CHUTE SWITCH

The coin chute switches are carefully adjusted to the recommended pressures and gaps with a feeler gauge and a gram gauge. Under normal operation these switches will function as designed, however, if a sharp blow on the front door or dropping of the cabinet sets up the game, carefully inspect and adjust the coin chute switches as indicated on page 8 of this booklet.

RELAY LIST FOR GRAND SLAM

<u>NO</u>	<u>COIL</u>	<u>TYPE</u>	<u>CONTACTS</u>	<u>RELAY USE</u>
A	A-3891	INTER	5A, 1B	MAN ON FIRST RELAY
AR	A-3891	LOCK		
B	A-3891	INTER	4A, 1B	MAN ON SECOND RELAY
BR	A-3891	LOCK		
C	A-3891	INTER	3A, 1B	MAN ON THIRD RELAY
CR	A-3891	LOCK		
D	A-9735	AG	4A, 1C	DOUBLE RELAY
E	A-9735	AG	6A	SINGLE RELAY
F	A-9735	AG	5A	RUN RELAY
G	A-9735	AG	4A	POP BUMPER RELAY
H	A-9735	AG	4A, 1B, 1C	HOME RUN RELAY
I	A-9735	AG	4A, 1C	TRIPLE RELAY
J	A-489	AS	1A, 2 DISC	00-90 UNIT RELAY
K	A-9735	AG	2A	10,000 POINT RELAY
L	A-9735	AG	5A	1,000 POINT RELAY
M	A-9735	AG	4A	100 POINT RELAY
N	A-9735	AG	4A	10 POINT RELAY
O	A-9735	AG	6A	BALL RETURN RELAY
P	A-9735	AG	5A	HOLE RELAY
Q	A-9740	AG	5C	ALTERNATING RELAY
R	A-9738	AG	3A, 1B, 1C	HOLD RELAY
S	A-9740	AG	5A, 1C	START RELAY
T	A-9742	AG	1B	TILT RELAY
U	A-9740	AG	2A, 1C	BASES LOADED RELAY
V	A-3891	INTER	2A, 1B	RESET COMPLETED RELAY
VR	A-3891	LOCK		
W	A-9740	AG	2A, 2B, 1C	3RD CHUTE RELAY
X	A-9740	AG	2A, 1B	2 PLAY RELAY
Y	A-6698	AS	1A	2 COINS PER PLAY RELAY
Z	A-9740	AG	6A	RESET RELAY

"OTHER COILS USED"

<u>COIL</u>	<u>DESCRIPTION</u>
A-5141	FLIPPER COILS
A-4893	POP BUMPER COILS
A-12092	CHIME COILS
A-5143	RUNS BELL COIL
A-1496	ADD BALL COUNT UNIT COIL
A-5194	RESET BALL COUNT UNIT COIL
A-1496	ADD REPLAY UNIT COIL
A-5194	SUBTRACT REPLAY UNIT COIL
A-1496	ADD HIT UNIT COIL
A-9154	SCORING UNIT COILS
A-5197	ADD ROTO UNIT COIL
A-1496	HOLE KICKER COILS
A-1496	BALL RETURN COIL
A-5143	KNOCKER COIL
A-7677	COIN LOCKOUT COIL
A-7760	MOTOR 60 HZ.
A-11550	MOTOR 50 HZ.
B-3235	TRANSFORMER 115V.
B-8660	TRANSFORMER 230V.

DISC & WIPERS USED

	<u>DISC</u>	<u>WIPER</u>
BALL COUNT UNIT	B-14254	B-9998
00-90 UNIT	A-9016	A-9015
(J RELAY)	A-9017	A-9015
HIT UNIT	B-12758	B-12757
ROTO UNIT	C-14334	C-14336
SCORE UNITS	C-12493	B-9166

PLAYBOARD INFORMATION

RUBBER RINGS

A	A-10217	(15)
B	A-10220	(4)
C	A-10222	(4)
D	A-10225	(1)
E	A-13151	(2)

PARTS LIST

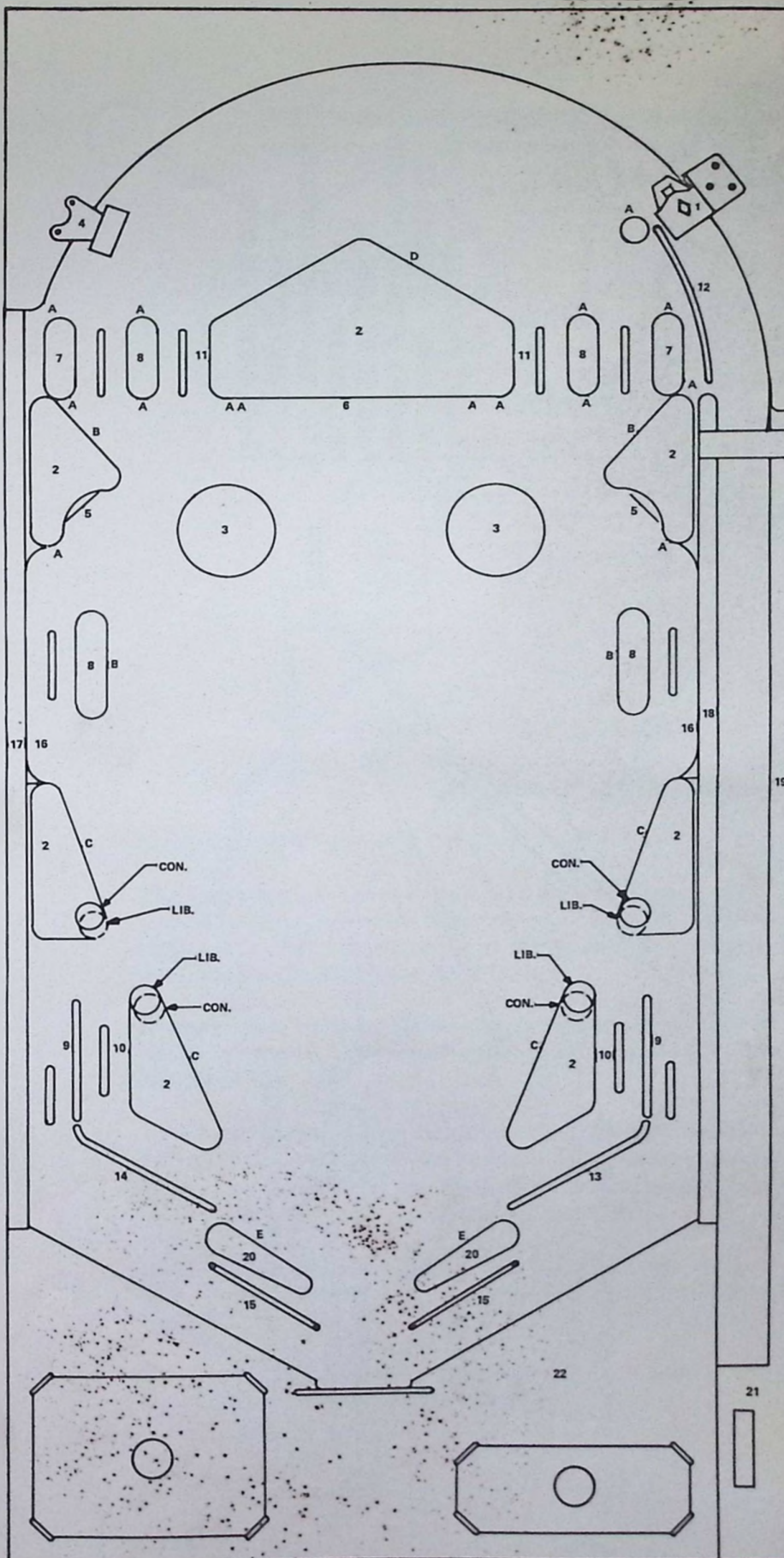
1. A-3290 Ball Gate.
2. C-14247 Plastic Shield Set.
3. Green Pop Bumper, White Cap.
4. A-9143 Rebound Rubber.
5. A-12774 Baseball Target
(B-9591 Target & Sw. Assem.)
6. C-14336 Roto Spinning Targets.
7. A-9394 White Plastic Guide Rail.
8. A-9395 White Plastic Guide Rail.
9. A-4832 Ball Guide Rail. (Wire Form)
10. A-6612 Ball Guide Rail. (Wire Form)
11. A-6931 Ball Guide Rail. (Wire Form)
12. A-8514 Ball Guide Rail. (Wire Form)
13. A-12106 Ball Guide Rail. (Wire Form)
14. A-12107 Ball Guide Rail. (Wire Form)
15. A-13798 Ball Snubber Rail.
(Wire Form).
16. A-14299 Ball Guide Flat Rail.
17. C-7393 Wood Rail.
18. C-9771 Wood Rail.
19. C-13977 Wood Rail.
20. C-13150 Flipper.
21. C-9767 Ball Shooter Gage.
22. D-13647 Card Holder.

C-11561 White Plastic Post
(26) 1" High

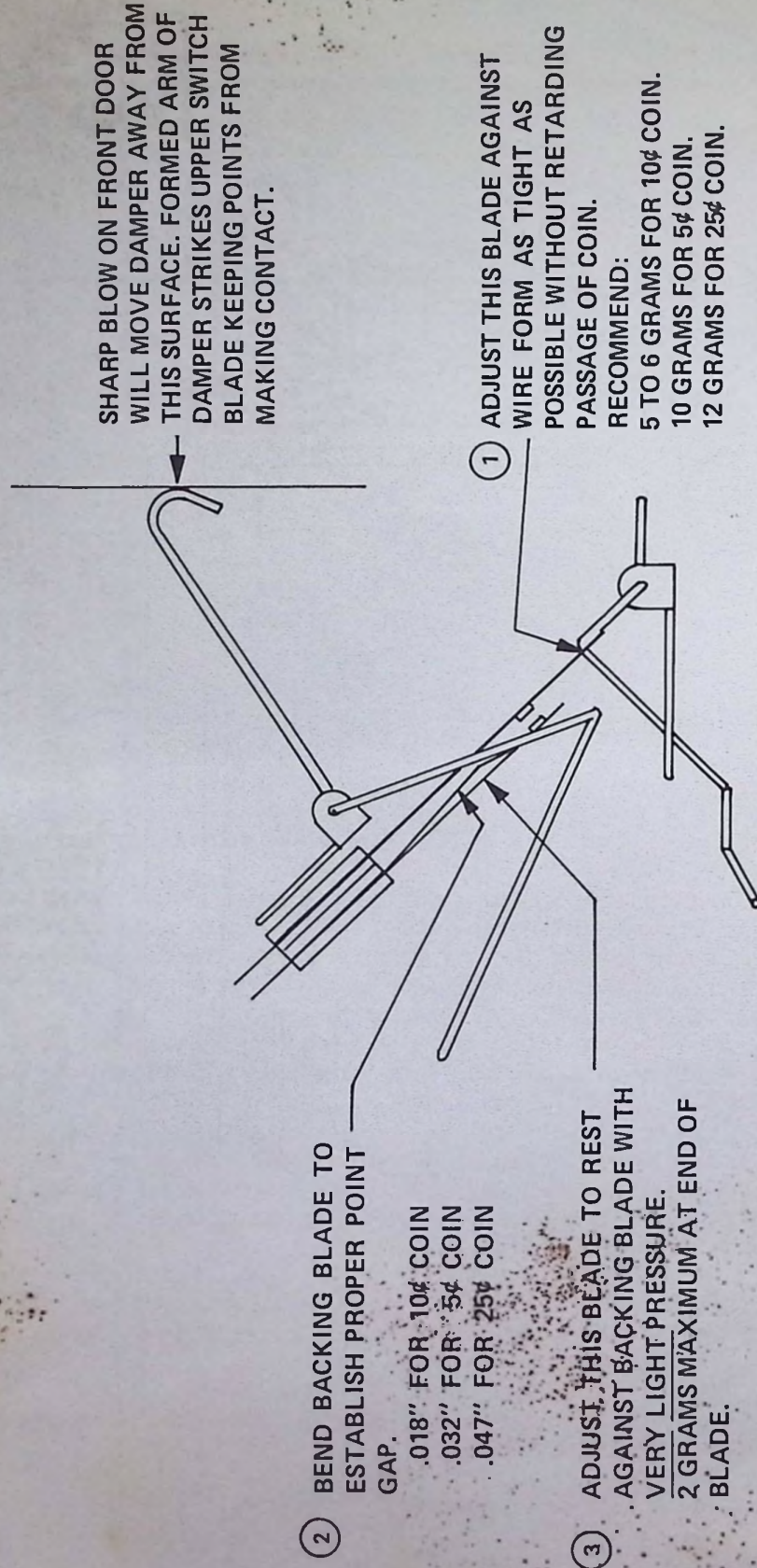
C-11562 White Plastic Post
(14) 1-3/16" High

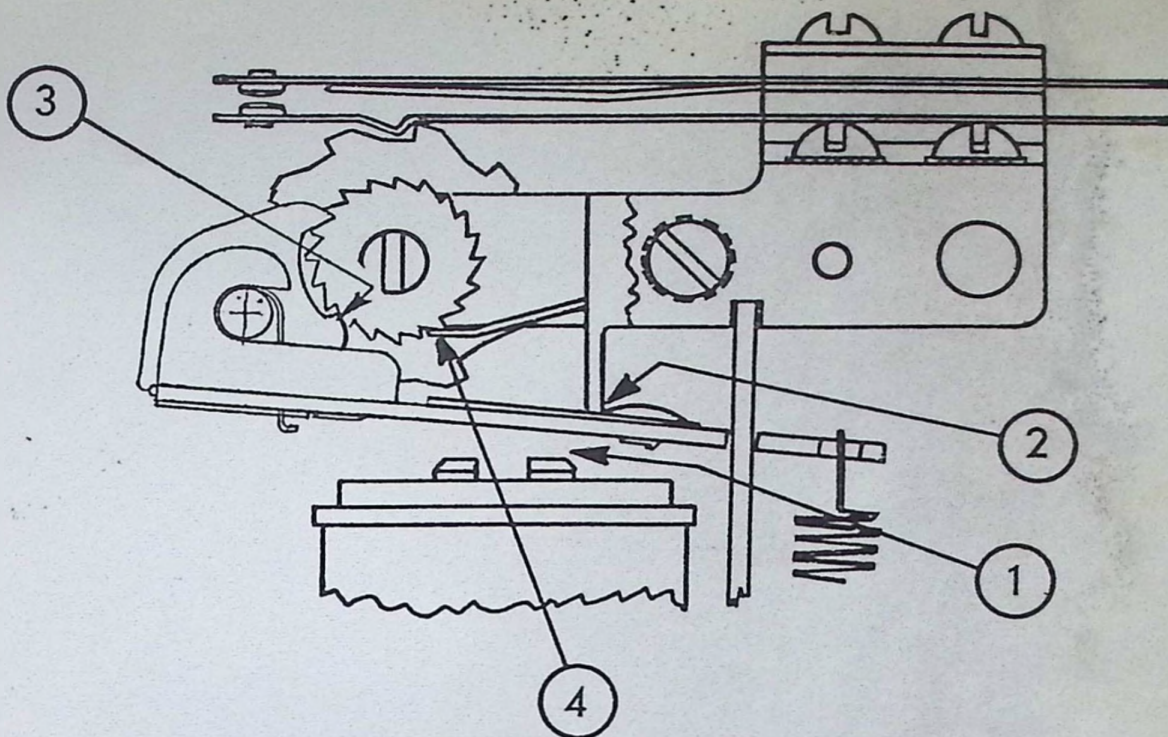
LIB = LIBERAL.

CON = CONSERVATIVE.



COIN SWITCH ADJUSTMENT





"AS" RELAY ADJUSTMENT

If an adjustment is needed to the "AS" relay, follow steps as outlined below:

The gap between the armature and the pole piece of the coil as measured at (1) should be approximately .050 inches. The drive pawl should travel 1-1/4 to 1-1/2 teeth on ratchet spindle. Both of these conditions depend on the outboard bearings being perpendicular to the relay frame.

Tighten override stop (2) so that it just touches, but does not exert any pressure, on the armature. Check to see that the drive pawl is in firm contact with the ratchet spindle at (3).

Adjust the index spring to rest in the 1st tooth back of center (4) and to exert a minimum of pressure to the ratchet. This pressure can be adjusted by bending the index spring mounting arm. Check thru one revolution to be sure the index spring clears each tooth with a minimum of backlash.

Adjust bottom switch blade to rest lightly in depression of cam; adjust top blade so that the gap between points is 1/32 inches and resting very lightly against backing blade.

If relay is equipped with a disc, the wiper will stop in the center of a segment when the above adjustments are correct.